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PATENT APPLICATION

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IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Andrew L. Van Brocklin et al.

Confirmation No.: 5877

Application No.: 10/782,488

Examiner: DETSCHEL, Marissa

Filing Date: February 18, 2004

Group Art Unit: 3886

Title: Calibration Feedback-Control Circuit for Diffraction Light Devices

Mail Stop Appeal Brief - Patents
Commissioner For Patents
PO Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF REPLY BRIEF

Transmitted herewith is the Reply Brief with respect to the Examiner's Answer mailed on March 9, 2007 .

This Reply Brief is being filed pursuant to 37 CFR 1.193(b) within two months of the date of the Examiner's Answer.

(Note: Extensions of time are not allowed under 37 CFR 1.136(a))

(Note: Failure to file a Reply Brief will result in dismissal of the Appeal as to the claims made subject to an expressly stated new ground rejection.)

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Typed Name: Rebecca R. Schow

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Respectfully submitted,

Andrew L. Van Brocklin et al.

By

Steven L. Nichols

Attorney/Agent for Applicant(s)

Reg No. : 40,326

Date : May 9, 2007

Telephone : 801-572-8066

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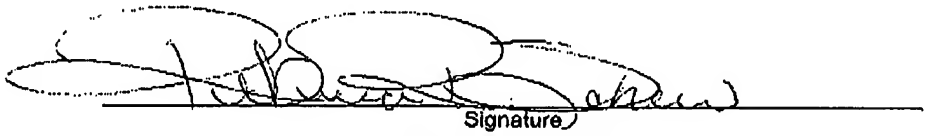

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1. Transmittal of Repy Brief with Duplicate copy (2 pages)
2. Certificate of Transmission (1 page)
3. Reply Brief (6 pages)

200315625-1 10/782,488

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Patent Application of

Andrew L. Van Brocklin et al.

Application No. 10/782,488

Filed: February 18, 2004

For: Calibration Feedback-Control Circuit for Diffraction Light Devices

Group Art Unit: 2886

Examiner: DETSCHEL, Marissa

REPLY BRIEF

Mail Stop Appeal Brief - Patents
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Sir:

This is a Reply Brief under Rule 41.41 (37 C.F.R) in response to the Examiner's Answer of March 9, 2007 (the "Examiner's Answer" or the "Answer"). In Section 10, the Answer contains a response to some of the arguments made in Appellant's brief. Appellant now responds to the Examiner's Answer as follows.

The Examiner's answer, Section 10, provides a single argument in response to Appellant's brief. Thus, Applicant addresses this single argument as it may variously apply to the two independent claims on appeal, claims 18 and 31.

As noted previously, the claims at issue in this appeal were rejected as anticipated under 35 U.S.C. § 102 by U.S. Patent No. 6,538,748 to Tucker et al. ("Tucker"). Independent claim 18 recites:

> A method of calibrating a diffractive light device (DLD), comprising:
> placing first and second opposing plates in a separated position defined by an actual gap distance;
> directing light onto said DLD device to modulate that light;
> *converting modulated light to an assumed gap value;*
> *comparing said assumed gap value to a designer-specified gap value*; and
> adjusting said assumed gap distance by a distance proportional to a difference between said assumed gap value and said designer-specified gap value.

(emphasis added).

Independent claim 31 recites similar, but independently patentable, subject matter in the form of a means plus function claim.

In contrast, Tucker clearly fails to teach or suggest a method that includes "converting modulated light to an assumed gap *value*" or means for doing so. Tucker further fails to teach or suggest a method that includes "comparing said assumed gap value to a designer-specified gap value" or means for doing so.

The Examiner's Answer disagrees and provides a lengthy argument *that is devoid of any citations to or quotations of the Tucker reference.* Moreover, the ineffectual Examiner's Answer refers to subject matter that is *not* included, taught or suggested by the Tucker reference.

According to the Examiner's Answer, "[t]he Tucker system does produce a *value* for the gap between opposing plates of the optical device." (Examiner's Answer p. 6). However, this incorrect and conclusory statement is unsupported by any citation to Tucker.

The Answer continues, "[t]he following equation applies to a Fabry-Perot etalon, which is understood to be a type of diffractive light device: $m\lambda = 2dn$, wherein *m* is a [sic] integer number, λ is the wavelength of the light produced by the etalon due to modulation, *d* is the spacing between the reflective plates of the etalon, and *n* is the refractive index of the material in the spacing between the reflective plates of the etalon." (Examiner's Answer, p. 6).

However, the Answer provides no citation as to where this information was obtained. A review of the Tucker reference demonstrates that this equation and the corresponding explanation are *not* in the Tucker reference. Consequently, it is entirely unclear what this argument has to do with the relevancy of the Tucker reference to the claimed subject matter and the question of whether Tucker teaches the claimed assumed gap value that is compared with a designer-specified gap value.

The Examiner's Answer next notes that there "is a direct relation between the wavelength of the light produced by a Fabry-Perot etalon and the spacing (i.e., gap) between the plates of the etalon. If the wavelength of the light produced by the etalon is known, the spacing can be found and vice versa." (Examiner's Answer, p. 6). This is factually correct and is stated in Appellant's specification, paragraph 0016. However, the Examiner's Answer appears to have forgotten that it is apply the Tucker reference. The Answer does not indicate how or where this fact is taught by the Tucker reference or how this supports the Answer's conclusion that Tucker teaches the subject matter of Appellant's claims.

The Examiner's Answer then argues that the "wavelength of a Fabry-Perot etalon is a numerical quantity that is measured, and, using the relationship above, the spacing is a numerical quantity that is calculated using the measured wavelength." (Examiner's Answer, p. 6). In making this statement, the Examiner's Answer now leaves the Tucker reference completely behind. Tucker does not teach or suggest that a wavelength value is measured or quantified. Moreover, as noted above, the Tucker reference does not include the relationship or equation referred to that relates a wavelength value and the spacing or gap between the etalon plates. The arguments of the Examiner's Answer at this point have absolutely no support or grounding in the cited prior art, and the Answer, accordingly, is devoid of any supporting citations to the Tucker reference.

Next, the Examiner's Answer states that the "reference wavelength of the reference laser in Tucker's device *represents a designer specified gap value*." (Examiner's Answer, p. 6) (emphasis added). It should be noted that the Answer here indicates that the reference wavelength, admittedly, only *represents* the designer-specified gap value. Thus, the Answer, implicitly admits that no actual designer specified gap value is present. Rather, the reference wavelength is used to *represent* the designer –specified gap value. This highlights the point Appellant has made that the Tucker system operates on different principles without ever obtaining an assumed gap value or comparing that value to a designer-specified gap value as claimed.

As explained previously, Tucker teaches detecting beats between the frequencies of two light sources (a servo light signal and a reference laser) and counts the beats between the frequencies. This beat count provides a direct comparison of the frequencies of the two light sources, without the need to every assign a numerical value to either of the frequencies, from which an assumed gap value could be calculated.

A beat count alone is not a value specifying the size of a gap between first and second opposing plates in a DLD. Although such a gap value may, given other variables, potentially be derived with some effort from this beat count, Tucker never teaches such a derivation or method.

Thus, Tucker does not teach or suggest generating the claimed "assumed gap value" based on actual operation of the DLD. Tucker further does not teach or suggest "comparing said assumed gap value to a designer-specified gap value."

"A claim is anticipated [under 35 U.S.C. § 102] only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). See M.P.E.P. § 2131. For at least these reasons, the rejection of Appellant's claims based on Tucker should not be sustained.

In view of the foregoing, it is submitted that the final rejection of the pending claims is improper and should not be sustained. Therefore, a reversal of the Final Rejection of July 13, 2006 is respectfully requested.

Respectfully submitted,

DATE: May 9, 2007

Steven L. Nichols
Registration No. 40,326

Steven L. Nichols, Esq.
Managing Partner, Utah Office
Rader Fishman & Grauer PLLC
River Park Corporate Center One
10653 S. River Front Parkway, Suite 150
South Jordan, Utah 84095
(801) 572-8066
(801) 572-7666 (fax)

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Rebecca R. Schow